Operation on U.S. Area Navigation Routes, Standard Arrival Routes, and Departure Procedures

Background: The FAA publishes Area Navigation (RNAV) routes and procedures in accordance with Advisory Circular (AC) 90-100 *U.S. Terminal and En Route Area Navigation (RNAV) Operations*. This AC is the culmination of several years of cooperation with industry to address issues with the initial implementation RNAV procedures and to ensure safe and successful implementation of new procedures. The AC, along with additional RNAV supporting information, is available at the website of the FAA Flight Technologies and Procedures Division, Flight Operations Branch (AFS-410): http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs410/policy_guidance/

Applicability of AC 90-100: AC 90-100 provides guidance for operation on U.S. Area Navigation (RNAV) routes (Q-routes and T-routes), Departure Procedures (Obstacle Departure Procedures and Standard Instrument Departures), and Standard Terminal Arrival Routes (STARs). It does not apply to overwater RNAV routes (ref 14 CFR 91.511, including the Q-routes in the Gulf of Mexico and the Atlantic routes) or Alaska VOR/DME RNAV routes ("JxxxR"). It does not apply to off-route RNAV operations.

List of Compliant Equipment: In developing AC 90-100, industry and the FAA defined the minimum criteria for RNAV systems to operate on the RNAV routes and procedures. Manufacturers evaluate their systems against this criteria, and a current list of compliant equipment can be found at the AFS-410 website. Pilots and operators can confirm the capability of their equipment on that list, or obtain information from the relevant manufacturer. Several manufacturers have identified that their RNAV systems do not comply with the criteria for DME/DME-based RNAV, and operations with those systems should be based on GPS.

GPS RAIM Prediction: As described in paragraph 8(a)(5) of AC 90-100, operators should verify RAIM availability prior to using GPS as the basis of operation on RNAV routes and procedures when any GPS satellites are out of service (e.g., "GPS PRN-14 OTS…"). However, a number of operators and GPS manufacturers have notified us that they do not have a means to verify RAIM along the route or procedure. The FAA is developing a RAIM prediction service for general use. Until this capability is operational, a RAIM prediction does not need to be done for any RNAV route conducted where ATC provides radar monitoring or RNAV departure/arrival procedure, which has an associated "RADAR REQUIRED" note charted. Operators may check RAIM availability for RNAV departure/arrival procedures at any given airport by checking approach RAIM for that location. This information is available upon request from a U.S. Flight Service Station (but not DUATS).

Flight Plan Suffixes: A new aircraft suffix table used for identifying equipment capability when filing an IFR flight plan is published in the AIM (see Table 5-1-2). The new suffixes allow controllers to identify aircraft capable of operating on RNAV routes and procedures. Previous /E and /F requirements for flight director, vertical navigation and speed/altitude constraints no longer apply. /G and /L suffixes apply to aircraft with Global Navigation Satellite System (GNSS) en route and terminal capability, including GPS or WAAS navigation equipment, as well as FMS with GPS or WAAS sensors.